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EXAMINER

LAO, TIM P

ART UNIT PAPER NUMBER

2655

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4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/754,517

Applicant(s)

STEPHENSON, MARC C.

Examiner

Tim Lao

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 04 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8, 19, and 32-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The term "miscellaneous conversions" in claim 8 and 19 is a relative term which renders the claim indefinite. The term "miscellaneous conversions" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.
4. Claim 32 recites the limitation "said serial port" in the last line of the claim. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao et al. (U.S. Patent 6,480,587, hereinafter "Rao") in view of Durlacher et al. (U.S. Patent 6,633,801, hereinafter "Durlacher").

Claim(s)

Rao shows:

1

A portable electronic voice recognition device (Fig.1: 10; col.1, ll.28-31) capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice response (col.5, ll.63-65), said portable electronic voice recognition device comprising:

an integrated circuit (Fig.1: 10; col.3, ll.28-32) capable of voice recognition (col.4, ll.32-41) and speech synthesis (col.5, ll.63-65), said integrated circuit further comprising at least:

a pre-amplifier, (Fig.2: encoder block)

*{a pre-amplifier is located within the encoder block in order to amplify the speech signal to drive the speaker for voice synthesis.}*

an analog to digital converter, (Fig.2: decoder block)

a digital to analog converter, (Fig.2: encoder block)

an analog controller, (Fig.2: input controller block)

a pulse width modulator, (Fig.2: data compression block)

an oscillator's, (Fig.2: transmission block)

a central processing unit, (Fig.2: processor block)

an external memory interface, (Fig.2: memory block)

a speech processing unit, (Fig.2: processor block; col.4, ll.32-41)

a timer, (Fig.2: programmable logic block)

an internal random access memory, (Fig.2: memory block) and

a data storage (Fig.2: data storage block), said data storage capable of storing and being uploaded with different software programs (e.g., voice recognition software, col.4, ll.38-41)

a microphone (e.g., detachable handset, col.2, ll.38-43) connecting to said integrated circuit (Fig.1: 10);

a communication system (Fig.5: 20) connecting to said integrated circuit (Fig.5: 10);

an I/O or communication port (col.1, ll.32-35) capable of connecting to a computer (Fig.5: 35), said I/O or communication port connecting to said integrated circuit (Fig.5: 10).

Rao does not show:

The portable electronic voice recognition device associated with aircraft operation,

a set of input jacks capable of connecting to a microphone, said set of input jacks connecting to said integrated circuit;

a set of output plug capable of connecting to an aircraft's communication system, said set of output plugs connecting to said integrated circuit;

a housing, said housing having said integrated circuit, said set of input jacks, said set of output plugs and said I/O or communication port disposed therein.

Durlacher teaches:

a portable electronic device associated with aircraft operation (e.g., flight-related tasks). (see Abstract)

The examiner takes official notice that:

	<p>The use of input jacks connecting a microphone to a device is old and well known in the art. The use of input jacks allows the microphone to be connected or disconnected easily from the device so that different user can have different microphones to share the same device.</p> <p>The use of output plugs or cables connecting a device to a communication system is old and well known in the art. The use output plugs or cables allows the device to be connected or disconnected easily from the communication system so that the device can be portable.</p> <p>The concept of housing with a device, input jacks, and output plugs and ports is old and well known in the art. The use of housing is to shield the electronic circuits inside the device so that the user can carry the device without damaging the electronic circuits.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher and the use of input jacks, cables, and housing in order to perform aircraft operation using portable voice activated device. This would enhance the capability and mobility of the device.</p>
Claim(s) 2	<p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 1 is capable of integrated into said aircraft's communication system without interfering with regular operation of aircraft's communications.</p> <p><u>Durlacher teaches:</u></p> <p>a portable electronic device capable integrated into said aircraft's communication system (e.g., pre-flight checklist <b>322</b>, post-flight checklist <b>338</b>) without interfering with regular operation of aircraft's communications (e.g., enroute <b>328</b>, pilot report <b>332</b>, inflight <b>334</b>, take off or landing). (see Fig.3)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the</p>

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	invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher in order to use voice commands to perform pre-flight and post-flight checklist without interfering with regular operation of aircraft's communications. Voice commands that interfere with regular operation of aircraft's communications (e.g., during take-off and landing) are not desirable.
Claim(s) 3	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 1 is operable only when said set of input jacks are connected to a voice inputting device, said voice inputting device being headphone or microphone. (col.2, ll.38-43)</p>
Claim(s) 4	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 1 is capable of being activated by an input voice prompt (e.g., voice command with user interaction). (col.4, ll.32-41; col.5, ll.50-67)</p>
Claim(s) 5	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 1 is capable of providing an output synthesized voice prompt (voice synthesis) in responding to an input voice prompt (e.g., user interactive voice command), said output synthesized voice prompt being a single output synthesized voice prompt or a series of output synthesized voice prompts. (col.4, ll.32-41; col.5, ll.50-67)</p> <p><u>Rao does not show:</u></p> <p>output synthesized voice prompt is pre-programmed; and</p> <p>pre-programmed output synthesized voice prompt being different for different aircrafts.</p> <p><u>Durlacher teaches:</u></p>

	<p>a portable electronic device associated with aircraft operation (e.g., flight-related tasks) for different aircrafts. (see Abstract)</p> <p><u>The examiner takes official notice that:</u></p> <p>pre-programmed voice synthesis is old and well known in the art. voice synthesis is pre-programmed to recognize commonly used or known voice commands so that less signal processing resource is needed to process the voice commands.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation for different aircrafts as taught by Durlacher and pre-programmed voice synthesis in order to use voice commands to perform pre-programmed output voice synthesis for different aircrafts because flight checklist and data are different for different aircrafts.</p>
Claim(s) 6	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 1 waits for an input voice prompt before providing next pre-programmed output synthesized voice prompt. (e.g., voice command with user interaction: col.4, ll.32-41; col.5, ll.50-67)</p>
Claim(s) 7	<p><u>The combination of Rao and Durlacher would show:</u></p> <p>The portable electronic voice recognition device in claim 1 is capable of operating either being connected (wired) to or disconnected (wireless) from said aircraft's communication system. (Rao: col.5, ll.50-53)</p>
Claim(s) 9	<p><u>The modified Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 1, wherein said integrated circuit is capable of continuous listening and word spotting.</p> <p>"Official Notice" is taken that the concept and advantage of continuous listening and word spotting in voice recognition is well known and expected in the art.</p>



	<p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include continuous listening and word spotting in the portable voice recognition device of the modified Rao in order to detect and analyze certain keywords instead of all of the words. This would reduce computation time and processing during voice analysis.</p>
Claim(s) 10	<p><u>The modified Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 1, wherein said integrated circuit can be either speaker dependent or speaker independent.</p> <p>"Official Notice" is taken that the concept and advantage of speaker dependent and speaker independent in voice recognition is well known and expected in the art.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include speaker dependent and speaker independent recognition in the portable voice recognition device of the modified Rao in order to enhance the capability of the device. Speaker dependent is useful in case where user identification or verification is necessary and speaker independent provides more robust recognition.</p>
Claim(s) 11	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 1 is powered by battery. (Fig.1)</p>
Claim(s) 12	<p><u>Rao shows:</u></p> <p>A portable electronic voice recognition device (Fig.1: 10; col.1, ll.28-31) capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice prompts (col.5, ll.63-65), said portable electronic voice recognition device comprising:</p> <p>a microphone (e.g., detachable handset, col.2, ll.38-43) connecting to said integrated circuit (Fig.1: 10);</p>

a communication system (Fig.5: 20) connecting to said integrated circuit (Fig.5: 10);

an I/O or communication port (col.1, ll.32-35) capable of connecting to a computer (Fig.5: 35);

an integrated circuit (Fig.1: 10; col.3, ll.28-32) capable of voice recognition (col.4, ll.32-41) and speech synthesis (col.5, ll.63-65).

Rao does not show:

The portable electronic voice recognition device associated with aircraft operation.

a set of input jacks capable of connecting to a microphone, said set of input jacks connecting to said integrated circuit;

a set of output plug capable of connecting to an aircraft's communication system, said set of output plugs connecting to said integrated circuit;

a housing, said housing having said integrated circuit, said set of input jacks, said set of output plugs and said I/O or communication port disposed therein.

Durlacher teaches:

a portable electronic device associated with aircraft operation (e.g., flight-related tasks). (see Abstract)

The examiner takes official notice that:

The use of input jacks connecting a microphone to a device is old and well known in the art. The use of input jacks allows the microphone to be connected or disconnected easily from the device so that different user can have different microphones to share the same device.

The use of output plugs or cables connecting a device to a communication system is

	<p>old and well known in the art. The use output plugs or cables allows the device to be connected or disconnected easily from the communication system so that the device can be portable.</p> <p>The concept of housing with a device, input jacks, and output plugs and ports is old and well known in the art. The use of housing is to shield the electronic circuits inside the device so that the user can carry the device without damaging the electronic circuits.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher and the use of input jacks, cables, and housing in order to perform aircraft operation using portable voice activated device. This would enhance the capability and mobility of the device.</p>
Claim(s) 13	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 12, wherein said integrated circuit further comprises at least:</p> <p>a pre-amplifier, (Fig.2: encoder block) {a pre-amplifier is located within the encoder block in order to amplify the speech signal to drive the speaker for voice synthesis.}</p> <p>an analog to digital converter, (Fig.2: decoder block)</p> <p>a digital to analog converter, (Fig.2: encoder block)</p> <p>an analog controller, (Fig.2: input controller block)</p> <p>a pulse width modulator, (Fig.2: data compression block)</p> <p>an oscillator's, (Fig.2: transmission block)</p> <p>a central processing unit, (Fig.2: processor block)</p>

	<p>an external memory interface, (Fig.2: memory block)</p> <p>a speech processing unit, (Fig.2: processor block; col.4, ll.32-41)</p> <p>a timer, (Fig.2: programmable logic block)</p> <p>an internal random access memory, (Fig.2: memory block) and</p> <p>a data storage (Fig.2: data storage block), said data storage capable of storing various databases and software programs (e.g., voice recognition software, col.4, ll.38-41)</p>
Claim(s) 14	<p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 12 is capable of integrated into said aircraft's communication system without interfering with regular operation of aircraft communications.</p> <p><u>Durlacher teaches:</u></p> <p>a portable electronic device capable integrated into said aircraft's communication system (e.g., pre-flight checklist <b>322</b>, post-flight checklist <b>338</b>) without interfering with regular operation of aircraft's communications (e.g., enroute <b>328</b>, pilot report <b>332</b>, inflight <b>334</b>, take off or landing). (see Fig.3)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher in order to use voice commands to perform pre-flight and post-flight checklist without interfering with regular operation of aircraft's communications. Voice commands that interfere with regular operation of aircraft's communications (e.g., during take-off and landing) are not desirable.</p>
Claim(s) 15	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 12 is capable of accepting</p>

	<p>an input voice prompt and responding with an output synthesized voice prompt when said set of input jacks are connected to a voice inputting device, said voice inputting device being headphone or microphone. (col.2, ll.38-43)</p>
Claim(s) 16	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 12 is capable of providing a series of output synthesized voice prompts (voice synthesis) in responding to an input voice prompt (e.g., user interactive voice command). (col.4, ll.32-41; col.5, ll.50-67)</p> <p><u>Rao does not show:</u></p> <p>output synthesized voice prompt is pre-programmed; and</p> <p>pre-programmed output synthesized voice prompts being different for different aircrafts.</p> <p><u>Durlacher teaches:</u></p> <p>a portable electronic device associated with aircraft operation (e.g., flight-related tasks) for different aircrafts. (see Abstract)</p> <p><u>The examiner takes official notice that:</u></p> <p>pre-programmed voice synthesis is old and well known in the art. Voice synthesis is pre-programmed to recognize commonly used or known voice commands so that less signal processing resource is needed to process the voice commands.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation for different aircrafts as taught by Durlacher and pre-programmed voice synthesis in order to use voice commands to perform pre-programmed output voice synthesis for different aircrafts because flight checklist and data are different for different aircrafts.</p>

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Claim(s) 17	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 12 waits for an input voice prompt before providing next pre-programmed output synthesized voice prompt. (e.g., voice command with user interaction: col.4, ll.32-41; col.5, ll.50-67)</p>
Claim(s) 18	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 12, wherein said data storage (Fig.2: data storage block) is capable of being uploaded with different databases and software programs (e.g., voice recognition software, col.4, ll.38-41) through said I/O or communication port (col.1, ll.32-35).</p>
Claim(s) 20	<p><u>The modified Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 12, wherein said integrated circuit is capable of continuous listening and word spotting.</p> <p>"Official Notice" is taken that the concept and advantage of continuous listening and word spotting in voice recognition is well known and expected in the art.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include continuous listening and word spotting in the portable voice recognition device of the modified Rao in order to detect and analyze certain keywords instead of all of the words. This would reduce computation time and processing during voice analysis.</p>
Claim(s) 21	<p><u>Rao shows:</u></p> <p>A portable electronic voice recognition device (Fig.1: 10; col.1, ll.28-31) capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice response (col.5, ll.63-65), said portable electronic voice recognition device comprising:</p> <p>an integrated circuit (Fig.1: 10; col.3, ll.28-32) capable of voice recognition (col.4,</p>

	<p>II.32-41) and speech synthesis (col.5, II.63-65);</p> <p>an input interface device (e.g., detachable handset wire or cable) connecting to said integrated circuit (Fig. 1: <b>10</b>); (col.2, II.38-43);</p> <p>an output interface device (Fig.5: <b>35</b>) connecting to said integrated circuit (Fig.5: <b>10</b>);</p> <p>a data transfer interface (I/O port: col.1, II.32-35) connecting to said integrated circuit.</p> <p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device associated with aircraft operation.</p> <p>a housing, said housing having said integrated circuit, said input interface device, said output interface device and said data transfer interface disposed therein.</p> <p><u>Durlacher teaches:</u></p> <p>a portable electronic device associated with aircraft operation (e.g., flight-related tasks). (see Abstract)</p> <p><u>The examiner takes official notice that:</u></p> <p>The concept of housing with a device, input jacks, and output plugs and ports is old and well known in the art. The use of housing is to shield the electronic circuits inside the device so that the user can carry the device without damaging the electronic circuits.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher and the use of housing in order to perform aircraft operation using portable voice activated device. This would enhance the capability and mobility of the device.</p>
Claim(s) 22	<p><u>Rao shows:</u></p>

	<p>The portable electronic voice recognition device in claim 21, wherein said integrated circuit further comprising at least:</p> <p>a pre-amplifier, (Fig.2: encoder block) <i>{a pre-amplifier is located within the encoder block in order to amplify the speech signal to drive the speaker for voice synthesis.}</i></p> <p>an analog to digital converter, (Fig.2: decoder block)</p> <p>a digital to analog converter, (Fig.2: encoder block)</p> <p>an analog controller, (Fig.2: input controller block)</p> <p>a pulse width modulator, (Fig.2: data compression block)</p> <p>an oscillator's, (Fig.2: transmission block)</p> <p>a central processing unit, (Fig.2: processor block)</p> <p>an external memory interface, (Fig.2: memory block)</p> <p>a speech processing unit, (Fig.2: processor block; col.4, ll.32-41)</p> <p>a timer, (Fig.2: programmable logic block)</p> <p>an internal random access memory, (Fig.2: memory block) and</p> <p>a data storage (Fig.2: data storage block), said data storage capable of storing and being uploaded with different databases and software programs (e.g., voice recognition software) through said I/O or communication port by said computer. (col.4, ll.38-41)</p>
Claim(s) 23	<p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 21 is capable of integrated</p>



	<p>into said aircraft's communication system without interfering with regular operation of aircraft communications.</p> <p><u>Durlacher teaches:</u></p> <p>a portable electronic device capable integrated into said aircraft's communication system (e.g., pre-flight checklist <b>322</b>, post-flight checklist <b>338</b>) without interfering with regular operation of aircraft's communications (e.g., enroute <b>328</b>, pilot report <b>332</b>, inflight <b>334</b>, take off or landing). (see Fig.3)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher in order to use voice commands to perform pre-flight and post-flight checklist without interfering with regular operation of aircraft's communications. Voice commands that interfere with regular operation of aircraft's communications (e.g., during take-off and landing) are not desirable.</p>
Claim(s) 24	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 21 is operable only when said input interface device (e.g., detachable handset wire or cable) is connected to a voice inputting device (e.g., detachable handset). (col.2, ll.38-43)</p>
Claim(s) 25	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 21 is capable of being activated by a pre-programmed signal (e.g., voice command with user interaction). (col.4, ll.32-41; col.5, ll.50-67)</p>
Claim(s) 26	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 21 is capable of providing a output synthesized voice prompt (voice synthesis) in responding to an input voice prompt (e.g., user interactive voice command), said output synthesized voice prompt being a single output synthesized voice prompt or a series of output synthesized voice prompts. (col.4, ll.32-</p>

	<p>41; col.5, ll.50-67)</p> <p><u>Rao does not show:</u></p> <p>output synthesized voice prompt is pre-programmed; and</p> <p>pre-programmed output synthesized voice prompt being different for different aircrafts.</p> <p><u>Durlacher teaches:</u></p> <p>a portable electronic device associated with aircraft operation (e.g., flight-related tasks) for different aircrafts. (see Abstract)</p> <p><u>The examiner takes official notice that:</u></p> <p>pre-programmed voice synthesis is old and well known in the art. Voice synthesis is pre-programmed to recognize commonly used or known voice commands so that less signal processing resource is needed to process the voice commands.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation for different aircrafts as taught by Durlacher and pre-programmed voice synthesis in order to use voice commands to perform pre-programmed output voice synthesis for different aircrafts because flight checklist and data are different for different aircrafts.</p>
Claim(s) 27	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 21 waits for an input voice prompt before providing next pre-programmed output synthesized voice prompt. (e.g., voice command with user interaction: col.4, ll.32-41; col.5, ll.50-67)</p>
Claim(s) 28	<p><u>The combination of Rao and Durlacher would show:</u></p>

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	<p>The portable electronic voice recognition device in claim 21 is capable of operating either being connected (wired) to or disconnected (wireless) from said aircraft's communication system. (Rao: col.5, ll.50-53)</p>
Claim(s) 29	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 21 is capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice response (col.5, ll.63-65).</p> <p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device associated with aircraft operation.</p> <p><u>Durlacher teaches:</u></p> <p>a portable computer system associated with aircraft operation (e.g., flight-related tasks). (see Abstract)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable computer system associated with aircraft operation as taught by Durlacher in order to use the portable voice activated device as a flight computer. The portable voice recognition device already has the computation power of a PC or server (Rao: col.1, ll.16-21) and would be readily adapted to flight computation.</p>
Claim(s) 30	<p><u>The modified Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 21, wherein said integrated circuit is capable of continuous listening and word spotting.</p> <p>"Official Notice" is taken that the concept and advantage of continuous listening and word spotting in voice recognition is well known and expected in the art.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the</p>

	<p>invention was made to include continuous listening and word spotting in the portable voice recognition device of the modified Rao in order to detect and analyze certain keywords instead of all of the words. This would reduce computation time and processing during voice analysis.</p>
Claim(s) 31	<p><u>Rao shows:</u></p> <p>A portable electronic voice recognition device (Fig.1: 10; col.1, ll.28-31) capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice response (col.5, ll.63-65), said portable electronic voice recognition device comprising:</p> <p>an integrated circuit (Fig.1: 10; col.3, ll.28-32) capable of voice recognition (col.4, ll.32-41) and speech synthesis (col.5, ll.63-65);</p> <p>an input interface device (e.g., detachable handset wire or cable) connecting to said integrated circuit (Fig.1: 10); (col.2, ll.38-43);</p> <p>an output interface device (Fig.5: 35) connecting to said integrated circuit (Fig.5: 10);</p> <p>a data transfer interface (I/O port: col.1, ll.32-35) connecting to said integrated circuit.</p> <p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device associated with aircraft operation.</p> <p>a housing, said housing having said integrated circuit, said input interface device, said output interface device and said data transfer interface disposed therein.</p> <p><u>Durlacher teaches:</u></p> <p>a portable electronic device associated with aircraft operation (e.g., flight-related tasks). (see Abstract)</p> <p><u>The examiner takes official notice that:</u></p>

	<p>The concept of housing with a device, input jacks, and output plugs and ports is old and well known in the art. The use of housing is to shield the electronic circuits inside the device so that the user can carry the device without damaging the electronic circuits.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher and the use of housing in order to perform aircraft operation using portable voice activated device. This would enhance the capability and mobility of the device.</p>
<p>Claim(s) 32</p>	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 31, wherein said integrated circuit further comprising at least:</p> <p>a pre-amplifier, (Fig.2: encoder block)  <i>{a pre-amplifier is located within the encoder block in order to amplify the speech signal to drive the speaker for voice synthesis.}</i></p> <p>an analog to digital converter, (Fig.2: decoder block)</p> <p>a digital to analog converter, (Fig.2: encoder block)</p> <p>an analog controller, (Fig.2: input controller block)</p> <p>a pulse width modulator, (Fig.2: data compression block)</p> <p>an oscillator's, (Fig.2: transmission block)</p> <p>a central processing unit, (Fig.2: processor block)</p> <p>an external memory interface, (Fig.2: memory block)</p> <p>a speech processing unit, (Fig.2: processor block; col.4, ll.32-41)</p>

	<p>a timer, (Fig.2: programmable logic block)</p> <p>an internal random access memory, (Fig.2: memory block) and</p> <p>a data storage (Fig.2: data storage block), said data storage capable of storing and being uploaded with different databases and software programs (e.g., voice recognition software) through said serial port by said computer. (col.4, ll.38-41)</p>
Claim(s) 33	<p><u>The modified Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 32, wherein said integrated circuit is capable of continuous listening and word spotting.</p> <p>"Official Notice" is taken that the concept and advantage of continuous listening and word spotting in voice recognition is well known and expected in the art.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include continuous listening and word spotting in the portable voice recognition device of the modified Rao in order to detect and analyze certain keywords instead of all of the words. This would reduce computation time and processing during voice analysis.</p>
Claim(s) 34	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 33 is operable only when said input interface device (e.g., detachable handset wire or cable) is connected to a voice inputting device (e.g., detachable handset). (col.2, ll.38-43)</p>
Claim(s) 35	<p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 34 is capable of integrated into said aircraft's communication system without interfering with regular operation of aircraft communications.</p>

	<p><u>Durlacher teaches:</u></p> <p>a portable electronic device capable integrated into said aircraft's communication system (e.g., pre-flight checklist <b>322</b>, post-flight checklist <b>338</b>) without interfering with regular operation of aircraft's communications (e.g., enroute <b>328</b>, pilot report <b>332</b>, inflight <b>334</b>, take off or landing). (see Fig.3)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation as taught by Durlacher in order to use voice commands to perform pre-flight and post-flight checklist without interfering with regular operation of aircraft's communications. Voice commands that interfere with regular operation of aircraft's communications (e.g., during take-off and landing) are not desirable.</p>
Claim(s) 36	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 35 is capable of being activated by a pre-programmed signal (e.g., voice command with user interaction). (col.4, ll.32-41; col.5, ll.50-67)</p>
Claim(s) 37	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 36 is capable of providing a output synthesized voice prompt (voice synthesis) in responding to an input voice prompt (e.g., user interactive voice command), said output synthesized voice prompt being a single output synthesized voice prompt or a series of output synthesized voice prompts. (col.4, ll.32-41; col.5, ll.50-67)</p> <p><u>Rao does not show:</u></p> <p>output synthesized voice prompt is pre-programmed; and</p> <p>pre-programmed output synthesized voice prompt being different for different aircrafts.</p>

	<p><u>Durlacher teaches:</u></p> <p>a portable electronic device associated with aircraft operation (e.g., flight-related tasks) for different aircrafts. (see Abstract)</p> <p><u>The examiner takes official notice that:</u></p> <p>pre-programmed voice synthesis is old and well known in the art. Voice synthesis is pre-programmed to recognize commonly used or known voice commands so that less signal processing resource is needed to process the voice commands.</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable electronic device associated with aircraft operation for different aircrafts as taught by Durlacher and pre-programmed voice synthesis in order to use voice commands to perform pre-programmed output voice synthesis for different aircrafts because flight checklist and data are different for different aircrafts.</p>
Claim(s) 38	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 37 waits for an input voice prompt before providing next pre-programmed output synthesized voice prompt. (e.g., voice command with user interaction: col.4, ll.32-41; col.5, ll.50-67)</p>
Claim(s) 39	<p><u>Rao shows:</u></p> <p>The portable electronic voice recognition device in claim 38 is capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice response (col.5, ll.63-65).</p> <p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device associated with aircraft operation.</p> <p><u>Durlacher teaches:</u></p>



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	<p>a portable computer system associated with aircraft operation (e.g., flight-related tasks). (see Abstract)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the portable computer system associated with aircraft operation as taught by Durlacher in order to use the portable voice activated device as a flight computer. The portable voice recognition device already has the computation power of a PC or server (Rao: col.1, ll.16-21) and would be readily adapted to flight computation.</p>
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7. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao in view of SureCheck ("SureCheck Echo 2.0 User Guide," 2000).

Claim(s) 8	<p><u>Rao shows:</u></p> <p>A portable electronic voice recognition device (Fig.1: 10; col.1, ll.28-31) in claim 1 is capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice response (col.5, ll.63-65).</p> <p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 1 is capable of functioning as an E6-B flight computer, said E6-B flight computer capable of calculating ground speed, course heading, wind correction angle, fuel consumption, leg time, distance flown, weight and balance, pressure density altitude, cross wind component and miscellaneous conversions.</p> <p><u>SureCheck teaches:</u></p> <p>a portable electronic device capable of functioning as an E6-B flight computer, said E6-B flight computer capable of calculating ground speed, course heading, wind correction angle, fuel consumption, leg time, distance flown, weight and balance, pressure density</p>
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	<p>altitude, cross wind component and miscellaneous conversions. (see E6B menus on p. 29)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the E6-B flight computer of SureCheck in order to perform flight-related computations based on input voice prompts and output synthesized voice prompts. This would enhance the capability and mobility of the device. Also, the E6-B flight computer is an easy and user friendly flight aid. (SureCheck, p.29, 1<sup>st</sup> ¶)</p>
Claim(s) 19	<p><u>Rao shows:</u></p> <p>A portable electronic voice recognition device (Fig.1: 10; col.1, ll.28-31) in claim 12 is capable of executing various voice activated commands (col.4, ll.32-41, ll.46-54; col.6, ll.21-24) and calculations (col.1, ll.16-21; col.3, ll.26-28) by means of synthesized voice response (col.5, ll.63-65).</p> <p><u>Rao does not show:</u></p> <p>The portable electronic voice recognition device in claim 12 is capable of functioning as a regular flight computer, said flight computer being capable of calculating ground speed, course heading, wind correction angle, fuel consumption, leg time, distance flown, weight and balance, pressure density altitude, cross wind component and miscellaneous conversions.</p> <p><u>SureCheck teaches:</u></p> <p>The portable electronic voice recognition device in claim 12 is capable of functioning as a regular flight computer (E6-B), said flight computer being capable of calculating ground speed, course heading, wind correction angle, fuel consumption, leg time, distance flown, weight and balance, pressure density altitude, cross wind component and miscellaneous conversions. (see E6B menus on p. 29)</p> <p>It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the portable voice recognition device of Rao to include the E6-B flight computer of SureCheck in order to perform flight-related computations based on input voice prompts and output synthesized voice prompts. This would enhance the capability and</p>

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	mobility of the device. Also, the E6-B flight computer is an easy and user friendly flight aid. (SureCheck, p.29, 1 <sup>st</sup> ¶)
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### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

[1]	5,926,790	07/1999	Wright
[2]	6,529,620	03/2003	Thompson
[3]	6,567,079	05/2003	Smailagic et al.
[4]	4,970,683	11/1990	Harshaw et al.
[5]	5,454,074	09/1995	Hartel et al.
[6]	4,725,956	02/1988	Jenkins
[7]	6,236,913	05/2001	Bomans et al.
[8]	6,346,892	02/2002	DeMers et al.
[9]	2002/0107694	08/2002	Lerg

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Lao whose telephone number is 703-305-8955.

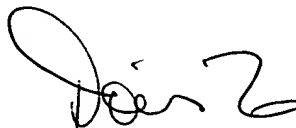
The examiner can normally be reached on M-F, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Tim Lao  
Examiner  
Art Unit 2655

TL  
05/12/04



**DORIS H. TO**  
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